

Visual Studies

Architectural Drawing and Representation I

CourseNo: ARCHA4023_001_2014_3

Meeting Time: W 11:00A-01:00P **Meeting Location:** [AVERY HALL 113](#)

Instructors:

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“Drawing, whether done by hand or using sophisticated computer software, can be either descriptive or prescriptive. If descriptive drawings can be subjective (impressionist, expressionist, and so forth) or objective (“technical” or “analytical”), prescriptive drawings are intended to be operative; they are manifestos of sorts. They are devices for thinking as well as for presenting positions.”

- Bernard Tschumi, Operative Drawing, The Activist Drawing

Architects do not make buildings; we make drawings. Our drawings can be descriptive when they are generated to convey a particular set of formal conditions, and they can be prescriptive when they act as tools used to interrogate adjacencies and spatial relationships. In either case, a well-crafted drawing becomes a feedback loop for the architect, allowing one to interrogate their design, respond to the drawing, and further their proposal.

Architecture’s history of projection-based representation developed a certain level of stasis in its evolution over the last half a century. However, recent shifts to a ‘paperless’ architecture continue to have a profound impact on the field of architecture and its modes of representation and analysis. Beyond severing the longstanding relationship of the line to paper, the extraction of the vector to a virtual realm is accompanied by a simultaneous influx of data. Tools like *Building Information Modeling* and other parametric based modes of practice have saturated our methods of representation with a significant amount of information.

With this new data saturation the position of the architectural drawing is in flux. The field of architecture is slowly moving away from its longstanding roots of projection based representation and drawing, in favor of a virtual model. The embedded data within the virtual model anticipates a certain adaptability or temporal quality which stands at odds with the fixity of traditional techniques. In this context, our historical techniques of communication have become an afterthought rather than the primary vehicles of spatial interrogation and communication. While longstanding methods such as plan, section, and elevation have remained, they have assumed a compromised, almost secondary, position. New tools of architectural investigation have made spatial inquiry so fluid and ubiquitous, that much of the field’s representation has gone the way of fast food; quickly made, and lacking much nutritional value. Understanding this shift might lead a critic towards a nostalgic longing for the historical modes of representation. Instead, we propose to investigate the alternate scenario.

In this course, we will engage drawing’s new temporal nature and try to harness its potential. What does it mean to make a drawing in the ‘Post-Projection’ era? What is lost when an understanding of the constructed nature of a drawing is gone and the tools of projection are relegated to a secondary role? What can be gained through understanding these tools more completely and then re-appropriating them in contemporary investigations?

Architectural Drawing + Representation will investigate the current concepts, techniques, and working methods of computer aided 'drawings' in architecture. The focus of the course will be the *construction* of architectural representations. However, rather than just experimenting in technique, the course will encourage one to define how these new operative techniques are changing the role of drawing in architecture. To this end, we will study the operative relationship between 2d and 3d data, exploring the reaches of their analytic and representational potential. While the class is a foundational course in architectural computing, it will build on the student's advanced ability to question, shape, and interrogate space and time. In doing so, the goal will be to reassert the speculative nature of representation in the creation of conceptual, provocative, and data-filled drawings.

The full-semester course will be focused on a project that is generated primarily with the use of Rhinoceros and 3dsMax. After the initial development of a virtual model, we will investigate tools to further the analytic and representational capacity of the data within the model. Studies will be in the form of drawings, physical models, images, and animations. There will be one assignment with 4 milestones. Each of these milestones will be posted on the class web page for grading.

As a companion to the course lectures, the class will have weekly Tutorial Sessions. Tutorials are two hour 'hands-on' sessions led by a video tutorial with one-on-one assistance by the course TAs. The tutorials will cover the concepts and techniques covered in the course lecture. There will be tutorial assignments which will be covered only during the tutorial sessions. Tutorial times will be coordinated with your studio TA and will start the first week of classes.

Each student will be assigned to one of the three instructors. Your instructor will provide one on one feedback in the form of desk crits and pin ups. The timing of these will be coordinated with your individual instructor and TA.

For the course assignment, each student will be chose a building from the provided list. Alternate buildings are discouraged, but will be considered on a case by case basis and determined by the compelling nature of your argument. Each of the assignments will be reviewed in either desk crits or pin up and posted on the class web page for grading.

Grades will be based on the following criteria:

- 10% Assignment 1A – Research Assignment
- 25% Assignment 1B – Drawings
- 25% Assignment 1C – Fabrication/Model
- 30% Assignment 1D – Animation/Drawings
- 10% Attendance and Participation

Requirements for the course:

- Attendance at the lectures, tutorials, guest lectures, pinups and desk crits
- Completion of the four assignments, includes the online posting and course pinups/review.

Recommended Reading:

There are no required textbooks for the course. There are recommended weekly readings as a companion to the course lectures and discussion. The weekly readings are excerpts from the books below. The recommended excerpt will be posted on the

university's **Courseworks** site. We have also listed below a few books, which are recommended if you have not interacted with them in your education.

The Activist Drawing: Retracing Situationist Architectures from Constant's New Babylon to Beyond, Catherine de Zegher and Mark Wigley, editors

Architectural Geometry, by Helmut Pottmann, Andreas Asperl, Michael Hofer, Axel Kilian

Architecture: Action and Plan, Peter Cook

The Changing of the Avant-Garde: Visionary Architectural Drawings from the Howard Gilman Collection, Contributions by Terence Riley, Sarah Deyong, Marco De Michelis, Pierre Apraxine, Paola Antonelli, Tina di Carlo, Bevin Cline

Contested Symmetries and Other Predicaments in Architecture, Preston Scott Cohen

Data Flow: Visualizing Information in Graphic Design, Robert Klanten, editor

Diamond Catalogue, Essay by John Hejduk

Drawing: the Motive Force of Architecture, Peter Cook

Elements of Descriptive Geometry, George Warren, George Blessing, and Lewis Darling

Envisioning Architecture: Drawings from the Museum of Modern Art, by Matilda McQuaid

Envisioning Information, Edward R. Tufte

Mappings, edited by Denis Cosgrove (James Corner's essay, *Agency of Mapping*)

Pamphlet Architecture 1-10, Princeton Architectural Press

Perfect Acts of Architecture, Jeffrey Kipnis

Points + Lines: Diagrams and Projects for the City, Stan Allen

Practice: Architecture, Technique and Representation, Stan Allen

The Projective Cast: Architecture and Its Three Geometries, Robin Evans

Scripting Cultures, Mark Burry

Translations From Drawing to Building, Robin Evans

Visual Explanations, Edward R. Tufte